TNX-2

Water 206.
File — White Oak Creek 1678

CLINTON LABORATORIES
CENTRAL FILES NUMBER
43-6-112

PROJECT 9733

~~SECRET~~

Those Eligible
To Read The
Attached

Date June 14, 1943

#4 of 5

Subject Laboratory Wastes--Bldg. 706-A

By W. C. Kay

To H. T. Daniels

CLINTON STANDARD CIRCULATION	
~~M. D. WHITAKER~~	
(2) ~~S. W. PRATT~~	
(1) [redacted]	✓
~~L. B. BORST~~	
~~V. W. NEWSON~~	

Before reading this document, sign and date below

Name	Date	Name	Date
WCK	6/15		
[illegible]	6/14		
[illegible]	6/18		

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1--H. T. Daniels
2--" " "
3--N. D. Whitaker
4--S. W. Pratt
5--G. D. Graves

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

EXPLOSIVES DEPARTMENT
- TNX

SECRET

June 14, 1943

CLASSIFICATION CANCELLED
DATE SEP 18 1963
For The Atomic Energy Commission
H. J. Canada
Chief, Declassification Branch

H. T. DANIELS (2)
DESIGN DIVISION

PROJECT 9733
LABORATORY WASTES--BLDG. 706-A

We have been advised that the following quantities of materials may be representative of the monthly waste from Bldg. 706-A at Clinton exclusive of active materials.

H_2SO_4	=	750 lbs.
HCl	=	270 "
HNO_3	=	1000 "
H_3PO_4	=	100 "
HF	=	150 "
NaOH + KOH	=	190 "
NH_4OH	=	300 "
Na_2CO_3	=	150 "
Na_3PO_4	=	30 "
$K_2CR_2O_7$	=	75 "
KCN	=	30 "
CuO	=	25 "
$Th(NO_3)_4$	=	40 "
$UO_2(NO_3)_2 . 6H_2O$	=	150 "

The Health Group at the University of Chicago has questioned whether the disposal of the products of this type and magnitude into White Oak Creek will be consistent with the public health in that area. We would appreciate a statement from the Engineering Department as to whether such practice would be consistent with normal industrial practice in the general area.

CLINTON LABORATORIES
S. W. PRATT
Per: W. C. Kay
W. C. Kay

WCK/er

CLINTON LABORATORIES

DATE June 7, 1943

TO S. W. Pratt DEPARTMENT

FROM L. B. Borst DEPARTMENT

IN RE: LABORATORY WASTES FROM 706A

The question has been raised as to whether or not the ordinary chemical wastes from 706A will constitute a disposal problem. No adequate estimate of these wastes can be made but the following will serve as a guide. Data were obtained from the storeroom keeper at the Ingleside Laboratories of the University of Chicago, giving the consumption of the principal chemicals on a month basis. They are as follows:

H_2SO_4	=	450 lbs	x1.5=750
HCl	=	180 "	270
HNO_3	=	700 "	1000
H_3PO_4	=	70 "	100
HF	=	100 "	150
NaOH + KOH	=	125 "	190
NH_4OH	=	200 "	300
Na_2CO_3	=	100 "	150
Na_3PO_4	=	20 "	30
$K_2CR_2O_7$	=	50 "	75
KCN	=	20"	30
CuO	=	15 "	25
$Th(NO_3)_4$	=	25 "	40
$UO_2(NO_3)_2 \rightarrow 6H_2O$	=	100 "	150

The water consumption of the laboratory is 67,000 cubic ft. per month. The area of 706A is approximately 50% greater than that of Ingleside Laboratory.

A preliminary examination and discussion with a sanitary engineer indicated that certain of these ions would be considered dangerous in a waste drainage rate of 1,000 gallons per minute. Dr. Whitaker tells me that he may not consult civilian engineers on this subject. We, consequently, hope that you will be able to find satisfactory recommendations

within the duPont Company.

L. B. Burt

pam

CC S. W. P.
M. D. W.
R. S. S.
Reading
X

-1027

SECRET Mr. Whitaker 1679 C

Water - White Oak Creek

DU PONT
ESTABLISHED 1802
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

ENGINEERING DEPARTMENT

CC: H. T. Daniels
H. L. Jacobs
F. W. Pardee, Jr.-file

[redacted]

COPY #1 OF 5

June 19, 1943

S. W. PRATT - W. C. KAY
ROOM 6519
EXPLOSIVES DEPARTMENT

PROJECT 9733 - C.E.W. - LABORATORY WASTES
BUILDING 706-A

We have reviewed the figures submitted by you in letter of June 14, and, when considering the quantities of wastes given with the expected normal flow of White Oak Creek together with other waters of dilution coming through the plant, it is expected that the alkalinity of the water will average above 50 p.p.m. at all times. The resultant mixture discharged to Clinch River water from White Oak Creek should always contain 30 to 40 p.p.m. alkalinity. The KCN and CaO concentrations are acceptable. The proposed dam and retention pool at the outlet of White Oak Creek will assist greatly in averaging out the wastes toward the lower concentrations.

DESIGN DIVISION

H. T. Daniels

LHH:mww

[redacted]